

# Mechanical Damage Detection - Technology Research

	<b>Coating</b> holidays, disbondment	<b>Expected Results</b>	<b>Denting</b> smooth dents, sharp dents, rerounding	<b>Expected Results</b>	<b>Metal Loss</b> associated corrosion, removed metal	<b>Expected Results</b>	<b>Metal Deformation</b> smear metal, scrapes, pipewall creasing	<b>Expected Results</b>	<b>Cracking</b> sheer cracks, ductile tearing, fatigue cracks, SCC	<b>Expected Results</b>
<b>Liquid</b>	1	SRA Methodology for Direct Assessment of Mechanical Damage / Advantica	< 1 Year	Understanding Magnetic Flux Leakage (MFL) Signals from Mechanical Damage in Pipelines / Ian Wood, Electricore, Inc.; Lyman Clapham, Queens's University / OPS DTPH56-05-T-0001 (176) & PRCI	< 1 Yr	1	Application of Remote-Field Eddy Current Testing to Inspection of Unpigable Pipelines / Gary Burkhardt, Southwest Research Institute / OPS DTRS56-02-T-0001 & PRCI	< 1 Yr	1	1
	2					2	Design, Construction and testing of a segmented MFL sensor for use in the inspection of unpiggable pipelines / George Vradis, Northeast Gas Association / OPS DTRS56-05-T-0002 (160) - Northeast Gas Association	< 1 Yr	2	2
	3					3	Validation and enhancement of long range guided wave ultrasonic testing: A key technology for DA of buried pipelines / Dpahne D'Aurko, Northeast Gas Association / OPS DTRS56-05-T-0002 (161) , NYSEARCH-NGA	1-3 Yrs	3	3
	4					4	Innovative Safety and Reliability Technologies for Pipeline System Integrity and Management / George Zhao, Intelligent Automation, Inc. / OPS DTRS57-04-C-10053 (157)	< 1 Yr	4	4
<b>Gas Transmission</b>	1	SRA Methodology for Direct Assessment of Mechanical Damage / Advantica	< 1 Year	Understanding Magnetic Flux Leakage (MFL) Signals from Mechanical Damage in Pipelines / Ian Wood, Electricore, Inc.; Lyman Clapham, Queens's University / OPS DTPH56-05-T-0001 (176) & PRCI	< 1 Yr	1	Application of Remote-Field Eddy Current Testing to Inspection of Unpigable Pipelines / Gary Burkhardt, Southwest Research Institute / OPS DTRS56-02-T-0001 & PRCI	< 1 Yr	1	1
	2					2	Design, Construction and testing of a segmented MFL sensor for use in the inspection of unpiggable pipelines / George Vradis, Northeast Gas Association / OPS DTRS56-05-T-0002 (160) - Northeast Gas Association	< 1 Yr	2	2
	3					3	Validation and enhancement of long range guided wave ultrasonic testing: A key technology for DA of buried pipelines / Dpahne D'Aurko, Northeast Gas Association / OPS DTRS56-05-T-0002 (161) , NYSEARCH-NGA	1-3 Yrs	3	3
	4					4	Innovative Safety and Reliability Technologies for Pipeline System Integrity and Management / George Zhao, Intelligent Automation, Inc. / OPS DTRS57-04-C-10053 (157)	< 1 Yr	4	4
<b>Gas Distribution (Steel)</b>	1	SRA Methodology for Direct Assessment of Mechanical Damage / Advantica	< 1 Year	Understanding Magnetic Flux Leakage (MFL) Signals from Mechanical Damage in Pipelines / Ian Wood, Electricore, Inc.; Lyman Clapham, Queens's University / OPS DTPH56-05-T-0001 (176) & PRCI	< 1 Yr	1	Application of Remote-Field Eddy Current Testing to Inspection of Unpigable Pipelines / Gary Burkhardt, Southwest Research Institute / OPS DTRS56-02-T-0001 & PRCI	< 1 Yr	1	1
	2					2	Design, Construction and testing of a segmented MFL sensor for use in the inspection of unpiggable pipelines / George Vradis, Northeast Gas Association / OPS DTRS56-05-T-0002 (160) - Northeast Gas Association	< 1 Yr	2	2
	3					3	Validation and enhancement of long range guided wave ultrasonic testing: A key technology for DA of buried pipelines / Dpahne D'Aurko, Northeast Gas Association / OPS DTRS56-05-T-0002 (161) , NYSEARCH-NGA	1-3 Yrs	3	3
	4					4	Innovative Safety and Reliability Technologies for Pipeline System Integrity and Management / George Zhao, Intelligent Automation, Inc. / OPS DTRS57-04-C-10053 (157)	< 1 Yr	4	4
<b>Gas Distribution (Non-Metallic)</b>	1					1				1
	2					2				2